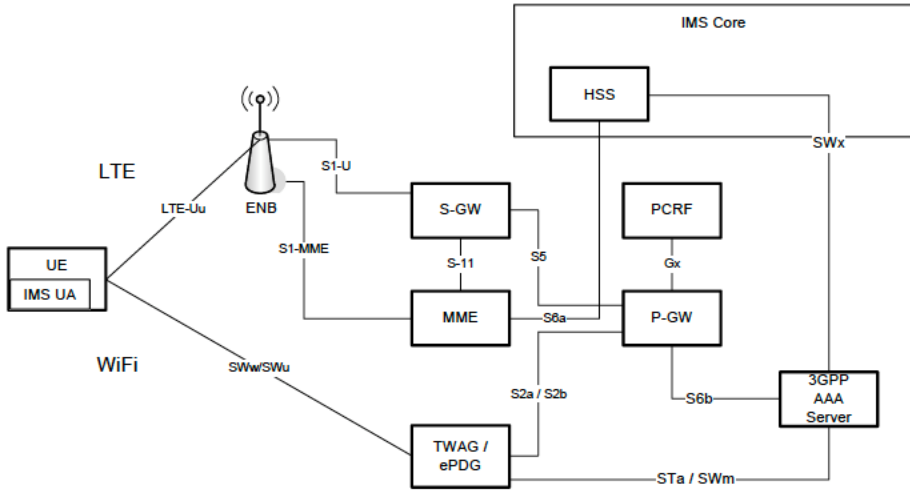


EXHIBIT 12

U.S. Patent No. 7,130,625

Claim 16	Identification: Verizon Cellular with WiFi Calling
<p>16<pre>] A universal wireless access gateway comprising:</pre></p>	<p>The Verizon system includes a universal wireless access gateway.</p>  <p>Figure 44: HO Architecture Wi-Fi <-> LTE</p> <p><u>Source:</u> VoWiFi Service Description, Version 1.0, 03 March 2015 - GSM Association, Official Document V2020.02 - VoWiFi Service Description.</p> <p>What is Wi-Fi Calling? ^</p> <p>Wi-Fi Calling (aka Voice over Wi-Fi or VoWiFi) is a built-in feature on most of our <u>current smartphones</u>. Wi-Fi Calling lets you make and receive voice calls, texts and video calls over a Wi-Fi network instead of using a cellular network.</p> <p>Try using Wi-Fi Calling if your cellular network service is weak or unavailable and Wi-Fi is available.</p> <p><u>Source:</u> https://www.verizon.com/support/wifi-calling-faqs/</p>

Wi-Fi Calling - Android - Place a Voice Call

When turned on, Wi-Fi Calling may improve call quality while indoors.

NOTE

- Wi-Fi Calling settings don't transfer after switching devices or performing a factory data reset. You need to enable Wi-Fi Calling if you want to use it.
- HD Calls may automatically hand over to Wi-Fi from 4G LTE when a known Wi-Fi access point is available and cellular signal is too weak.
→ Similarly, HD Calls automatically handoff from Wi-Fi to 4G LTE when cellular signal is strong.
- Wi-Fi calls always originate in the US, even when you are outside of the US.
 - Calls to US numbers aren't billed (except for 411 or other premium calls).
 - Calls to international numbers are billed according to your international long distance plan.
→ A whisper tone, which can't be turned off, advises of potential charges before the call connects; ending the call before it's connected prevents costs.

Source: <https://www.verizon.com/support/knowledge-base-201653/>

Wi-Fi Calling Terms & Conditions

Wi-Fi Calling allows you to make and receive calls over a Wi-Fi connection when the mobile network is unavailable. To use Wi-Fi Calling, you must first activate HD Voice on your smartphone, accept these Terms and Conditions and confirm or modify the U.S. address where you want emergency service sent if you call 911. You must also have access to the Internet through your device's Wi-Fi connection. If you lose your Wi-Fi connection while on a call, your call may drop. You can disable Wi-Fi Calling by going to Settings and toggling it off.

WARNING – IMPORTANT EMERGENCY 911 CALL LIMITATIONS

When calling 911, always tell the operator where you are. Your 911 call will go over Wi-Fi only if the cellular network is unavailable. It is very important that you update your 911 address (which can be done at any time through your device settings) whenever you change your location, since this is the location that will be given to emergency responders when you dial 911. 911 calls made over Wi-Fi may be delayed or unsuccessful (for example, if the 911 system doesn't recognize the address, electrical power is out, or your Wi-Fi connection isn't working). Any Wi-Fi call made to a U.S. number will be treated as a domestic call, no matter where the call originates, and you will not be billed for such calls, with the exception of 411 or other premium calls, unless your plan requires otherwise with respect to such Wi-Fi calls, 411, or other premium calls. Any Wi-Fi call made to a non-U.S. number will be treated as an international call, and will be billed in accordance with your international calling plan. Please refer to your service description or FAQs for more information on the use of the Wi-Fi Calling service, including any applicable charges.

Last Update: May 2020

Source: <https://www.verizon.com/support/wifi-calling-legal/>

See also 16[a]-16[c] below.

16[a] a shared component;

The Verizon system includes a shared component, for example, at least the HSS.

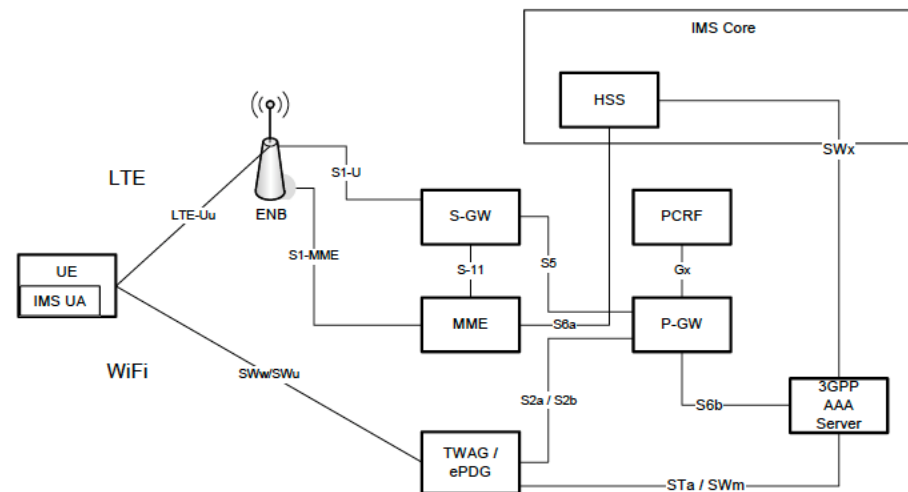
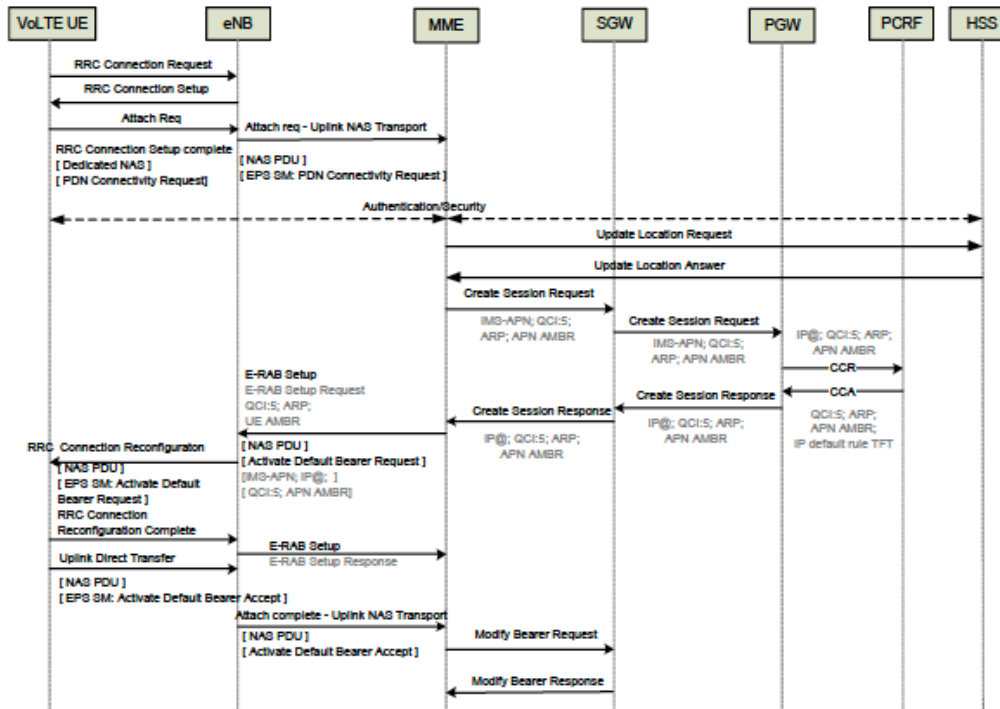


Figure 44: HO Architecture Wi-Fi <-> LTE

Source: VoWiFi Service Description, Version 1.0, 03 March 2015 - GSM Association, Official Document V2020.02 - VoWiFi Service Description.



Source: VoLTE Service Description and Implementation Guidelines Version 2.0 07 October 2014

16[b] a first environment access module that communicates with the shared component to enable access to a first network using a first wireless access technology; and

The Verizon system includes a first environment access module, for example, at least the MME, that communicates with the shared component to enable access to a first network using a first wireless access technology (such as cellular access).

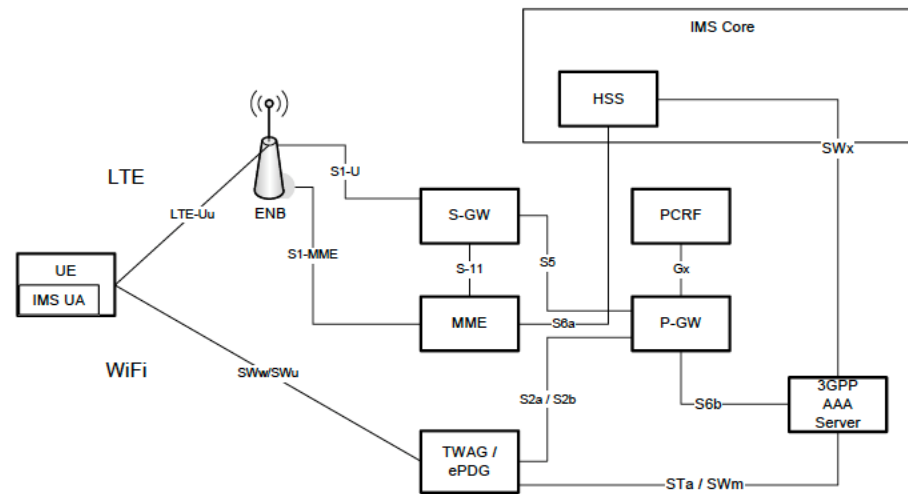
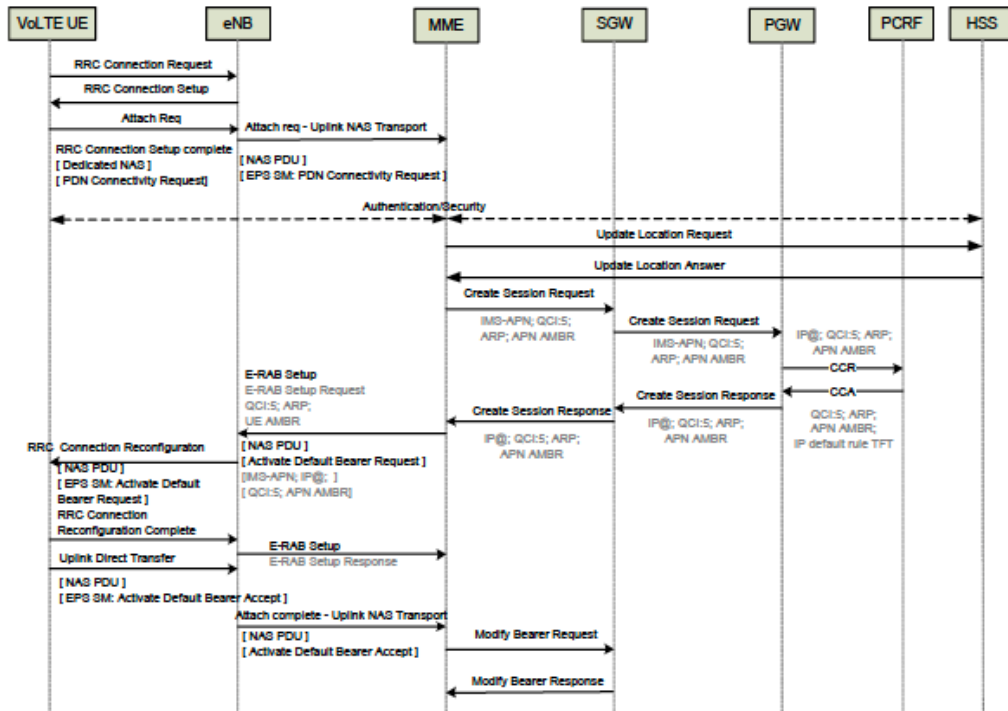


Figure 44: HO Architecture Wi-Fi <-> LTE

Source: VoWiFi Service Description, Version 1.0, 03 March 2015 - GSM Association, Official Document V2020.02 - VoWiFi Service Description.



Source: VoLTE Service Description and Implementation Guidelines Version 2.0 07 October 2014

16[c] a second environment access module that communicates with the shared component to enable access to a second network using a second wireless access technology that differs from the first wireless access technology.

The Verizon system includes a second environment access module, for example, at least the 3GPP AAA Server, that communicates with the shared component to enable access to a second network using a second wireless access technology (such as Wi-Fi) that differs from the first wireless access technology (such as cellular).

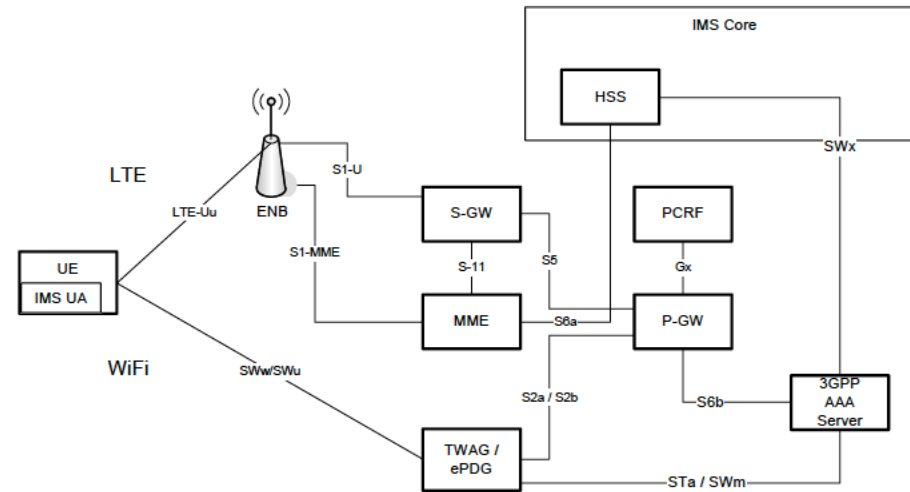
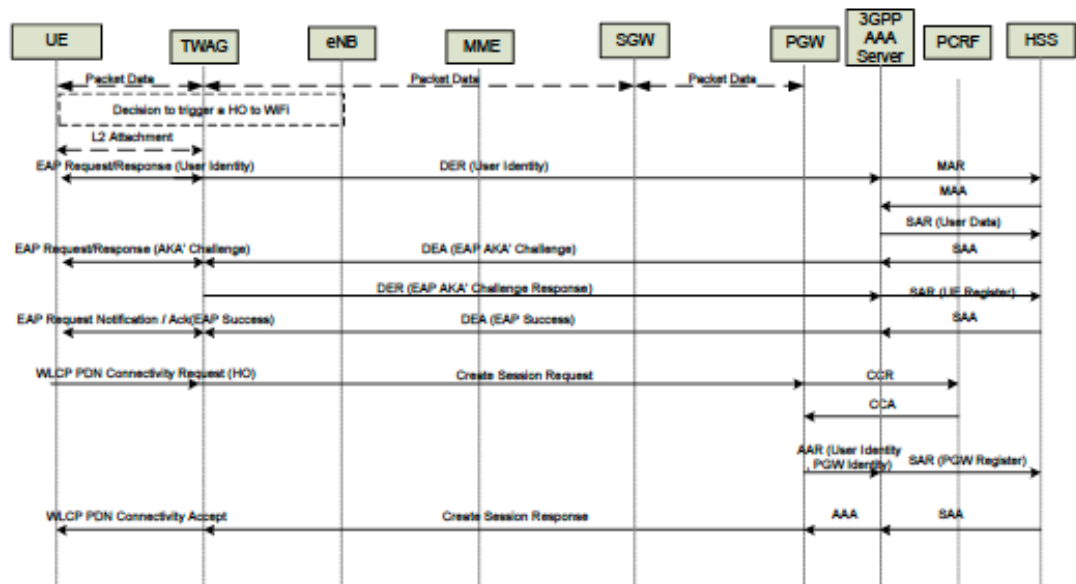


Figure 44: HO Architecture Wi-Fi <-> LTE

Source: VoWiFi Service Description, Version 1.0, 03 March 2015 - GSM Association, Official Document V2020.02 - VoWiFi Service Description.



6.3.3 Detailed Description

The UE detects the Wi-Fi network and determines to perform a handover from LTE to Wi-Fi.

Source: VoWiFi Service Description _Version 1.0, 03 March 2015 - GSM Association, Official Document V2020.02 - VoWiFi Service Description